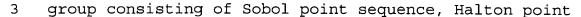WE CLAIM:

1   1.   A method for structuring a portfolio, comprising:
2   (i)   calculating, by computer, a number of potential-
3   loss function values at points in a domain of stochastic
4   market factors, the points being obtained from a low-
5   discrepancy deterministic sequence;
6   (ii)   determining a cumulative distribution function
7   of the function values;
8   (iii) determining value at risk as one of the function
9   values corresponding to a specified level of confidence; and
10   (iv)   structuring the portfolio depending on a
11   comparison of the value at risk with a specified target
12   value.

1   2.   The method according to claim 1, wherein
2   determining the cumulative distribution function comprises
3   sorting the function values.

1   3.   The method according to claim 1, wherein the
2   number of function values is predetermined.

1   4.   The method according to claim 1, wherein the
2   number of function values is determined automatically.

1   5.   The method according to claim 1, wherein
2   calculating comprises allocating function evaluations among
3   a plurality of processors.

1   6.   The method according to claim 1, wherein the low-
2   discrepancy deterministic sequence is selected from the

3 group consisting of Sobol point sequence, Halton point
4 sequence, Hammersley point sequence, hyperbolic-cross point
   sequence and generalized Faure sequence.

1   7.   A system for structuring a portfolio, comprising:
2   (i)   means for calculating a number of potential-loss
3 function values at points in a domain of stochastic market
4 factors, the points being obtained from a low-discrepancy
5 deterministic sequence;
6   (ii)   means for determining a cumulative distribution
7 function of the function values;
8   (iii) means for determining value at risk as one of
9 the function values corresponding to a specified level of
10 confidence; and
11   (iv)   means for structuring the portfolio depending on
12 a comparison of the value at risk with a specified target
13 value.

1   8.   The system according to claim 7, wherein the
2 means for determining the cumulative distribution function
3 comprises means for sorting the function values.

1   9.   The system according to claim 7, wherein the
2 number of function values is predetermined.

1   10. The system according to claim 7, wherein the
2 means for calculating comprises means for determining the
3 number of function values.

29

1   11.   The system according to claim 7, wherein the

2   means for calculating comprises means for allocating

3   function evaluations among a plurality of processors.

1   12.   The system according to claim 7, wherein the low-

2   discrepancy deterministic sequence is selected from the

3   group consisting of Sobol point sequence, Halton point

4   sequence, Hammersley point sequence, hyperbolic-cross point

5   sequence and generalized Faure sequence.

1   13.   A system for structuring a portfolio, comprising

2   a processor which is instructed for:

3   (i)   calculating potential-loss function values at

4   points in a domain of stochastic market factors, the points

5   being obtained from a low-discrepancy deterministic

6   sequence;

7   (ii)   determining a cumulative distribution function

8   of the function values;

9   (iii) determining value at risk as one of the function

10 values corresponding to a specified level of confidence; and

11   (iv)   structuring the portfolio depending on a

12 comparison of the value at risk with a specified target

13 value.

1   14.   The system according to claim 13, wherein, in

2   determining the cumulative distribution function, the

3   processor is instructed for sorting the function values.

1   15.   The system according to claim 13, wherein the

2   number of function values is predetermined.

1   16.   The system according to claim 13, wherein the

2   processor is instructed for determining the number of

3   function values.

1   17.   The system according to claim 13, wherein, for

2   calculating, the processor is instructed for allocating

3   function evaluations among a plurality of sub-processors.

1   18.   The system according to claim 13, wherein the

2   low-discrepancy deterministic sequence is selected from the

3   group consisting of Sobol point sequence, Halton point

4   sequence, Hammersley point sequence, hyperbolic-cross point

5   sequence and generalized Faure sequence.